



# ***Industry Partnership for Improved Codes***

- ◆ **Partnership: California Energy Commission, California Building Industry**

- Agree on problems and potential solutions
  - Work together to implement solutions

- ◆ **Why Training?**

- Complicated Energy Code
  - Incomplete Compliance

- ◆ **Best Training Group**

- Industry Association (Building Industry Institute)

- ◆ **Expected Results**

- Improved Code Compliance

- ◆ **Unexpected Results**

- Cooperation on other issues
  - Voluntary Programs



**BII**



# ***Training Format***

## **1. Classroom Training (half-day class)**

Purchasing, Construction (VPs, General Superintendents)

## **2. On-Site Training (half-day for each builder)**

General Superintendents + Site Superintendents

Subcontractors

Review/train how to read documentation

Inspect for meeting proper specifications

Review installation quality issues

Demonstrate diagnostics

## **3. Follow Up On-Site -- 6 Months Later**

On-site inspection

More training/diagnostics

Evaluate improvements



# **BII**



# *Utility Support of Training*

- ◆ **CA Public Goods Funding for Energy Efficiency**
- ◆ **All Investor-Owned Utilities Participating**  
Training one element of efficiency programs
- ◆ **California Peak Problems**  
Pressure to obtain energy savings immediately  
Some utilities currently not supporting training  
Two of Five supporting this year
- ◆ **Public Goods Funding Will Continue**  
Training will again emerge as common program element



**BII**



# *Energy Savings From Training*

## ♦ **Six Years of Training**

368 Large Production Builder Co.s

2,681 people trained

92,000 homes effected

## ♦ **Energy Savings**

352,000,000 KBtu/year

\$3M Annual energy cost savings to consumers

## ♦ **Cost vs. Benefit**

Total budget: \$1.85M

=\$20.12 per house

ANNUAL savings \$2.2M

=\$32.11 per house



**BII**



# ***More Than Code Training***

- ◆ **Understanding of Codes & Quality Issues**
- ◆ **Contractor Scopes of Work**

Beyond code; improve quality

Insulation

Air Sealing

Windows

Mechanical

PVs

[www.thebii.org](http://www.thebii.org)

- ◆ **Energy Star Homes**

Increased efficiency and value

Learn to use 3<sup>rd</sup> Party inspections and diagnostics

- ◆ **Impact**

Improve quality

Decrease potential liability



**BII**



# ***Local Government Initiative***

## ◆ **Supported by CA Utility**

Funded by Southern California Edison

Advisory Committee includes CBIA, CEC, NRDC, EPA,  
Builders, Building Officials

## ◆ **Community Energy Efficiency Program (CEEP)**

Higher efficiency, improved quality homes

Energy Star

CEC tight ducts

Mechanical design

Construction protocols

CHEERS rating (inspections & diagnostics)

Faster plan-check / reduced fees

## ◆ **Adopted by 24 Local Jurisdictions, over 40 by end of 2001**



# **BII**



# *Code Updates*

## ◆ **Collaborative Working Group**

CEC

NRDC

CBIA

Utilities

## ◆ **Lessons Learned from Training**

Quality / Diagnostic results

## ◆ **Field Performance not Computer Performance**

Field verified credits now codified:

Tight ducts

ACCA design/sizing

Tight construction

3<sup>rd</sup> Party HERS inspections

Possible future credits for improved installations -- insulation

Installers involved



# BII



# ***Improved Energy Efficiency— Involve Industry***

## ◆ **Codes Work Better with Industry Participation**

Industry needs to be informed

Uniform enforcement required

Utilities get credit for increased savings

## ◆ **Develop Infrastructure**

Protocols, diagnostics, HERS

Benefits

reduced litigation

reduced call-back costs

improved mortgages

product differentiation

Voluntary programs to go at least 10% beyond code

## ◆ **WORK WITH THE INDUSTRY TO MAKE IT HAPPEN**



# BII